



# GRAIN

February, 1946



# INDUSTRY'S 1945 EXPLOSION AND FIRE LOSS

The fire loss suffered by the industry during 1945, while not reaching the unbelievable heights of some of the war years, is still beyond reason. And, not only are replacements costly and extremely difficult to execute, but the quality of materials and workmanship now available doesn't compare with that in most existing plants.

The National Fire Protection Association has just compiled a list of eight major fire catastrophies occurring last year. Eight fires alone accounted for an elevator and flour mill property loss only of \$3,775,000, hence the fire loss suffered by all larger grain handling and grain processing plants would not be less than twice this figure, and would probably come closer to trebling it.

Lives, jobs, and businesses depend upon the safe and fire-less operation of every plant, so a review of the reported conditions surrounding each of the following major fire losses should aid in helping others to prevent similar occurrences in their properties.

## Mar. 25, Jackson, Miss. Feed Mill. \$275,000

Fire of unknown origin started at 9:15 a.m. on Sunday under the feed storage section of this four-story plant handling mixed feed, corn, shucking, shelling, hay grinding and flour blending.

The buildings were of frame and ironclad construction. The fire alarm was transmitted through the master fire alarm box by the operation of automatic sprinklers.

Firemen sounded a general alarm upon arrival and with the aid of some 30 sprinkler heads and numerous hose streams, the fire was brought under control. The sprinklers were then shut off and overhauling with small hose streams began.

Four hours after the original alarm, fire rekindled in a 6 ft. by 6 ft. grain bin in the four-story mill, resulting in a considerable dust explosion, which spread fire for 200 feet in the building. Fire companies were recalled and sprinklers were again turned on, aided by fire department connections to the sprinkler system.

The fire was apparently being brought under control when the water supply failed, due to depletion of elevated storage tank and difficulties in maintaining suction from rain-filled

drainage creek. By the time the supply was restored, flames were beyond control in the feed and corn mill, grain bins, feed storage and mash-mixing building and a two-story storage warehouse. The fire was checked at a two-story section.

Failure of sprinklers to hold fire to a small area in the original fire was, no doubt, due to unusual draft, and to the fact that sprinklers in roof monitor operated in advance of those along the roof. Under the conditions the sprinkler equipment was not considered to have failed.

## Aug. 7, Port Arthur, Ontario, Can. Grain Elevator, \$750,000.

The explosion and fire in the Saskatchewan Terminal Elevator No. 5 caused the death of 22 persons and injured 27 others. Investigation revealed that the Elevator fell far short of the N.F.P.A. Code for the Prevention of Dust Explosions in Terminal Grain Elevators, and that the chief elements causing the disaster were directly related to these substandard conditions.

The factory inspection branch of the Canadian Department of Labour is presently drafting regulations to

provide greater safety in grain elevators as a result of this tragedy. Ontario has already taken action to require installation of dustproof electrical fixtures and switches, and instructions have been issued throughout the Dominion for at least two means of exit from each floor of all grain elevators.

## Aug. 31, Pendleton, Ore. Flour Mill. \$250,000.

An early morning fire destroyed the Kerr-Gifford flour mill, originally constructed in 1888, and robbed the city of Pendleton of this important industry, which had a 700-barrel-a-day capacity. Only two frame warehouses east of the main mill were saved by fire fighters and a favorable shift of wind.

Fire from an unknown cause was first discovered at 11:50 p.m. by a workman, who telephoned the city fire department. By the time of its arrival, the flames had spread so rapidly that workmen were just able to escape, and the three-story wood structure was a raging inferno, destroying between 50,000 and 60,000 bushels of wheat amid explosions of wheat dust.

Five box cars on a railroad siding were lost as inadequate water supply from six-inch mains hampered fire fighting. Dwelling houses in the vicinity were threatened, and residents were forced to protect their property with garden hoses. The mill was not protected by automatic sprinklers.

## Sept. 17, Tewksbury, Mass. Poultry and Animal Feeds. \$400,000.

The Tewksbury plant of the General Foods Corporation was leveled by an early morning fire believed to have been caused by defective electrical wiring. Absence of automatic sprinkler protection, lack of a yard hydrant system or public water supply, and serious dust conditions were elements in the rapid spread of the fire.

Discovered by a watchman at 5:07 a.m., the volunteer department answered and drafted water from a pond whose nearest edge was approximately sixty feet from the building. Assistance was requested and received from four other communities, but all except two sections were considered total losses.



**Snooper says: "Good House-keeping" is not just a magazine . . . it's an every-day responsibility in your plant operation.**



# COSTLY IN LIVES—PROPERTIES—BUSINESSES

No fire stops were provided and the flames spread unchecked through the one and two-story plant, which had part brick and part wood walls, part joist and part plank on timber floors and roof. Recorded hourly watch service was provided, but both clock and dial were lost in the flames.

**Nov. 3, Columbus Ohio. Grain Storage and Milling. \$500,000.**

Fire started in the grain drying area on the second floor of this brick and concrete Gwinn Milling Company building, with joisted and timber

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## NOVEL MATCH COVER DESIGN

I am looking for a suitable packaged-match cover to fit our requirements here relative to carrying the common kitchen-type of match. I want to get a cover with the Devil's head, or a full drawing of the old bugger, immersed in flames. I propose including some suitable slogans on the package to remind the men of the dangers of carrying kitchen-type matches around a grain elevator.

If any of the readers of *GRAIN* have seen something like I have in mind I would appreciate hearing from them. . . . I shall try to induce all the elevator companies to do the same thing, the only difference being that each firm's name will be shown at the plant where the matches will be used.—Percy C. Poulton, N. M. Paterson & Co., Ltd., Fort William, Ont.

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floors. A neighbor telephoned an alarm at 11:13 p.m. when flames were seen coming from windows of an area in which employees had supposedly extinguished a fire in the driers at 2:30 p.m. on the same day without notifying the fire department.

After firemen arrived, the plant watchman ran from the building with his clothing ablaze. Before he died he told doctors that he fought the flames until driven from the building. Fire department officials believe the fire rekindled from the previous blaze.

The automatic sprinkler equipment had been out of service for about three years despite repeated urging by the fire department that the sprinkler protection be re-established. The fire was fought with twenty hose streams, including two ladder nozzles and two turret streams. Streams were used in an effort to prevent damage to large concrete grain storage bins.

Firemen were unable to confine the

fire to the area of origin due to explosions which scattered fire over a large area, through open stairs, conveyors, shafts, and ducts. The dry house area and laboratory were totally destroyed, and equipment in the elevator was seriously damaged.

An explosion in grain tanks in the upper part of the elevator blew off a portion of the roof. The flour mill was also seriously damaged, with upper floors and roof falling in. Only 14 per cent of an estimated 960,000 bushels of grain was lost as a result of the efforts of fire fighters and the fire-resistive construction of the bins.

**Nov. 25, Baltimore, Md. Seed Processing. \$800,000.**

The entire south half of the new Southern States Cooperative seed processing and storage building was in flames when a radio equipped police car sent in an alarm at 4:33 a.m. The plant was not in operation and absence of automatic sprinklers or alarm equipment, plus no watchman service, gave the fire ample opportunity to spread, fed by an estimated 50,000 bushels of corn, soy beans, red clover and alfalfa.

Completed last September, the steel-framed building destroyed measured 176 by 100 ft., and was seven stories high, with unprotected openings between floors. The walls of the first two floors of the building were cinder block-faced with red brick not tied in to the walls, and the five upper stories were covered with corrugated asbestos.

Fire fighters were forced to retire three times to avoid injury from collapsing red brick facing of the walls. An exposed two-story brick warehouse only 25 feet from the burning structure was miraculously saved by fire fighters, who, on five alarms, brought 24 pumbers, 5 ladder trucks and a fire boat to the scene.

Relaying operations were required, as nearest hydrants were 600 to 2000 ft. from the building and the fire boat's nearest approach was 1500 ft. away. A three-alarm fire alarm at 11:15 a.m. in a rug cleaning company at another location gave the city its most serious multiple alarm fires within one day in many years.

**Dec. 25, Minneapolis, Minn. Grain Elevator. \$500,000.**

Automatic alarm service in the Atlantic Elevator Company brought out sixteen pieces of the Minneapolis Fire Department at 2:10 a.m. Christmas

## RECOMMENDS CONTINUOUS INSPECTIONS

At the recent annual meeting of the Dust Explosion Hazards Committee of the National Fire Protection Association I recommended that continuous daily inspections be made in all of

the larger grain handling and grain processing plants by a well qualified dust explosion and safety engineer in order to prevent such catastrophes as we have had in the past.—Wm. F. Schaediger, Corn Products Refining Company, North Bergen, N. J.

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morning. First firemen to arrive, when the fire was in its incipient stages, extended hose lines to the fifth floor of the 140 ft. elevator, but intense heat required withdrawal.

Just as they cleared the building the first of two major explosions raised the roof and spread the flames disastrously. Their escape was termed "miraculous." A second explosion, presumably also of dust origin, further spread the fire throughout the old wooden structure which was about half-filled to its 500,000 bushel capacity.

Efforts which were concentrated toward successfully saving houses in the vicinity were aided by a favorable wind. The fire brought Minneapolis' 1945 fire losses to an all time high of \$2,400,000, according to newspaper accounts. The previous high was in 1911 when the loss was \$2,123,647.

**Dec. 30, Springfield, Ill. Grain Elevator. \$300,000.**

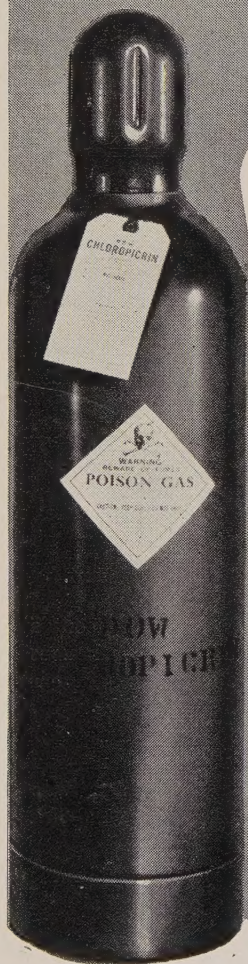
The night shift checked out at 1:00 a.m. At 5:50 a.m. a fireman on an Alton Railroad switch engine reported smoke pouring from the elevator. When the first firemen reached the Wiedlocker and Sons' Feed Manufacturing Company, the elevator was completely involved in flames.

For the next four hours, six pumbers and three ladder trucks fought to confine the spread of fire and extinguish it. According to newspaper reports the 125 ft. elevator, mill house and warehouse were destroyed, together with 50,000 bushels of grain and 10,000 sacks of feed.



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A concrete warehouse and the office building were saved. An aerial ladder was used to permit fire fighters to get above the flames and use a deluge nozzle to effect large volume water discharge on the contents.

### EXPLOSION THROUGH ROOF

Twelve inch walls buckled around the two top floors of the eight story plant of the Russell-Miller Milling Co. in Buffalo on Feb. 5 when a dust explosion blew out one corner of the roof. A small fire resulted, but was extinguished by firemen using company hose lines.

The fire chief, who placed the loss at \$20,000, held that a spark from a hot journal got into a suction pipe and ignited dust therein, as the roof at the head of the pipe was torn off thereby relieving the built up pressures and preventing further damage.

### SUPERIOR PLANT DESTROYED

The large Nebraska-Kansas Grain & Feed Co.'s sub-terminal at Superior, Neb., was destroyed by fire on Feb. 10. Loss \$250,000.

### BREWERY BLAST

A grain dust explosion in the Fehr Brewery, Louisville, blew out a number of windows and damaged the building on Feb. 9. No one was injured.

### CHOKE CAUSES FIRE

A choked elevator leg resulted in fire damage to the Moore-Lowry Flour Mills Co.'s large elevator at Coffeyville, Kan., on Jan. 16. Automatic sprinklers extinguished the blaze.

### MALT KILN FIRE

Flames in a grain drying kiln at the G. J. Meyer Malt & Grain Corp. plant in Buffalo broke out twice in five days recently. The damage was small.

### GWINN TO REBUILD

Rebuilding the Gwinn Milling Co.'s plant in Columbus, O., is being planned. A \$500,000 fire last November leveled some units of the properties.

### CALL PRETZEL BENDER?

Prices are so high these days we understand even the Siamese Twins are having a tough time making ends meet!



## ADDITION FOR HASTINGS

A \$100,000 addition is to be built for the King Midas Milling Co. at Hastings, Minn., augmenting their already extensive storage facilities.

## TO DOUBLE CAPACITY

A 500,000 bu. addition is being added by the Shawnee (Okla.) Milling Co., bringing up their total capacity to 1,100,000 bu.

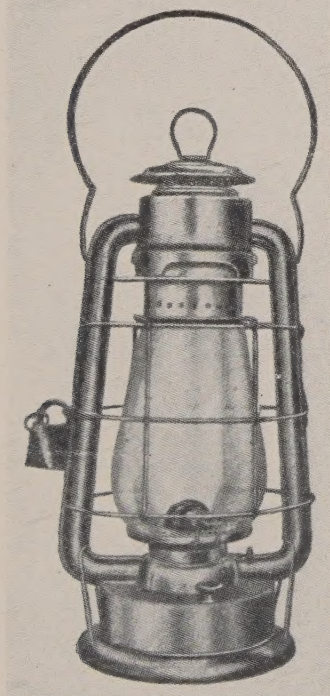
## RAHR EXPANSION STARTED

Rahr Malting Company of Manitowoc has started work on two new concrete additions which will cost \$370,000 when completed.

## BACK IN THE "GOOD OLD DAYS"

The other day, in going through an old 1911 catalogue of the Great Western Mfg. Co. of Leavenworth, Kan., I found an ad that might be interesting to the readers of GRAIN.

Here is a picture of the nice kerosene burning lantern that was equipped with a lock so that the globe



couldn't be taken off in the plant—and it was "called" a Safety Lantern. The catalog description of this lantern reads:

"Made especially for and under the supervision of the Millers National Insurance Company of Chicago for the use of their policy holders, and endorsed by the leading Millers Mutual Insurance Companies of the West. It is especially constructed to keep the

dust out of the tubes, and every precaution has been taken to make it a safe lantern for use in flour mills, etc.

"Price each, without lock...\$1.50.

"Extra Globes, each..... 0.15."

In these days when we hear about throwing radar beams at the moon and catching them again, I wonder if 35 years from now our present "dust tight" electrical equipment will look as obsolete as this one does?—George H. Steel, Safety Director, Ralston-Purina Company, St. Louis.

## GERMAN SUB-TERMINAL VENTS BLASTS

Pictured on the front cover of this issue is a German sub-terminal, which W. J. McDillon of Great Lakes Supply Co., Chicago, thought interesting. Particular attention is called to the trap doors in the roof, undoubtedly designed and installed, Mr. McDillon thinks, to vent explosions.

## CARLOADINGS UP 20%

Carloadings of grain and grain products during the past four weeks are 20.6% ahead of last year, but 7% under those of 1944, according to official records, and for the weeks listed below, were:

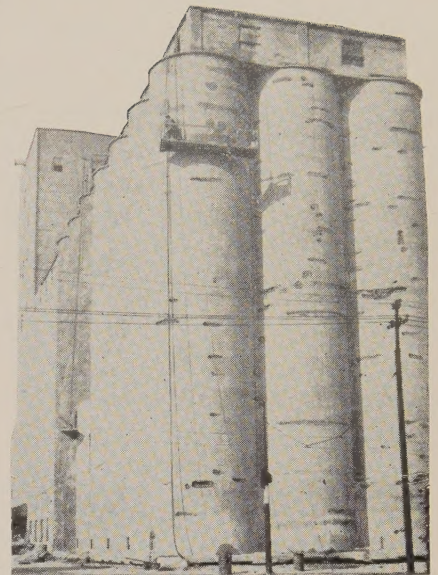
	1946	1945	1944
Feb. 9 .....	50,844	41,340	53,800
Feb. 2 .....	54,420	41,776	55,270
Jan. 26 .....	53,868	43,756	55,815
Jan. 19 .....	54,925	46,027	58,857

## BIGGEST WHEAT CARGO

The past year was a very busy one at Port McNicoll. During the calendar year we unloaded 197 vessels which carried 55,398,768 bus. In 1921 a total of 59,324,166 bu was received.

Our navigation season opened on March 30th and it was the first time in the history of the Port that a boat had arrived in that month. We unloaded quite a number of American vessels during the following months, among them the "Shenango," the "James McNaughton," and the "Col. James Schoonmaker," and I met a number of very fine Masters from South of our border. Incidentally the "Schoonmaker" discharged here on July 4th and her cargo was 525,500 bu. which at that time was the biggest cargo of wheat ever carried by an American vessel.—J. Bruce Winfield, Supt., Canadian Pacific Elevator, Port McNicoll, Ont.

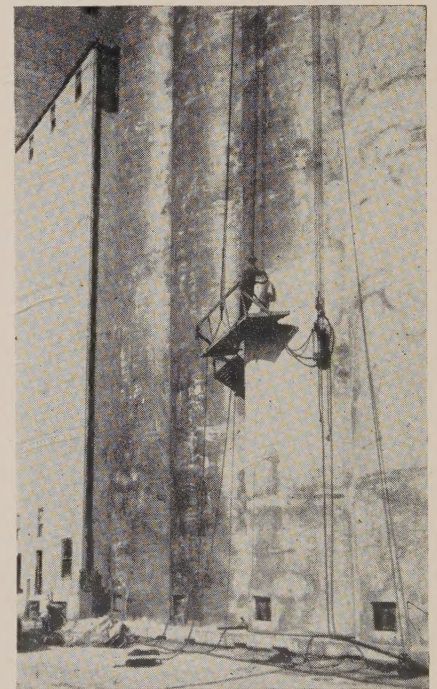
*"If we stick together we can lick anyone we have to fight. If we stick together intelligently we will never have to fight."*—General Dwight D. Eisenhower.



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## TOO LATE



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# Analyze Grievance Records

## To Cure "BAD SPOTS"

**I**F YOU have any complaints, I take them up through the grievance procedure and we will settle them promptly." This very common parrot-like answer to all employee gripes is sharply criticized by A. C. Croft, President of the National Foremen's Institute, in a special report to the Institute's members.

The attitude illustrated by this answer is "stupid," he asserted, "because it implies that the grievance procedure can be made a substitute for a periodic re-evaluation of the company's labor relations policies and for continuous attention to the manner in which the supervisory staff applies these policies."

Many an employer has wound up a period of conscientious effort to deal fairly with his union in a mood of at least partial disillusionment, the author observed. But the disillusionment is at least partly unjustified. For such an employer apparently assumes that as long as his good faith is beyond question, he has done his best and should have little or nothing to worry about.

### Reducing Grievances

**T**HAT assumption, however natural psychologically, lacks validity. It bespeaks a failure on the part of the Superintendent to realize that establishment of a perfect grievance procedure does not obviate the need for continuous alertness in the company's labor relations policy. The goal of that policy is to reduce grievances, not to make sure grievances are processed perfectly through the grievance machinery."

By itself, the establishment of a smoothly functioning grievance machinery merely articulates and accentuates grievances, opening up a focus of infection and channeling it directly to top management's attention, Mr. Croft states. As a result, the number of employee complaints is bound to increase, unless the basic causes of the grievances are removed. Formerly these complaints were short-circuited or completely disregarded, or unvoiced by employees out of fear of reprisal from their foremen.

Some Superintendent's "have cut off their own nose to spit in the union's face," by angrily limiting the type of grievances they would con-

sider after the establishment of grievance machinery loaded them down with complaints, Mr. Croft contended. "The inevitable result of such employer reaction is growing employee dissatisfaction that explodes, sooner or later, in a series of wildcat strikes. For 'talking out' a complaint provides an exit for emotional high pressure.

### Reviewing Records

**O**THERWISE there would simply be created additional resentment, this time against the Superintendent's apparent arbitrariness in refusing to listen to complaints. By choking off the channel of grievances, the super does not put over-aggressive union representatives in their place. On the contrary, he generously furnishes the very nourishment on which they thrive."

Instead of limiting grievances, Mr. Croft advocated that grievance records should be analyzed periodically to determine in what departments or supervisory units most of the complaints arise, what the frequency rate for different types of grievances is, and where and why there are leaks in the procedure through which complaints rise above the first line of supervision where they should be settled.

"With such a record," said Mr. Croft, "Superintendents will be in a better position to apply constructive remedies specifically designed to cure the bad spots without disturbing the good ones. The chances are that such analyses will uncover a number of dispute-creating factors in company policy or supervisory attitudes and routine, of which top management is unaware or permits to exist simply because of long-established precedent."

### SALARY INCREASES OKAY

Salary increases paid to an executive, professional or administrative employee receiving less than \$5,000, and increases for those receiving over that amount, are now permissible without Treasury Department approval, under new ruling T.D. 5506. Prior approval is mandatory, however, in the case of new plants or departments.

### VALUABLE TEXT

"How to Evaluate Supervisory Jobs," by Albert N. Gillett, is directed toward a particularly important current problem. With the status of foremen of vital concern to management, this new manual provides detailed answers for the two key questions: (1) What is the supervisory job worth? and (2) How good is the man occupying that position?

The author seeks to avoid the costly mistakes of administration common to the usual trial-and-error method in the selection and payment of supervisory personnel. He provides definite, detailed methods for evaluating the job, and appraising the job-holder. A kit of blank forms which are part of this manual make it a practical working tool.

The manual has three sections. Part I explains and describes the Job - Analysis - Rating - Evaluation of Supervision method, which enables management to determine how much the job itself is worth in either hourly or salary range.

Part II is devoted to a detailed description of a definite plan by which management can determine the weak and strong points of the individual occupying the supervisory position.

Part III supplies the reader with a working kit or blank forms for running his own tests, 22 forms in all, printed on heavy ledger paper, designed for actual use, applicable to both plant and office personnel.

What makes this manual particularly valuable is the wealth of illustrative material it contains, and the pains taken by the author to make the book thoroughly useful. Included are: typical forms to demonstrate actual job evaluation; actual job performance appraisal forms completely filled out; 34 detailed instruction sheets; 11 illustrated charts.

"How to Evaluate Supervisory Jobs," by Albert N. Gillett. 8½x11, 141 pages, loose-leaf gold stamped fabrikoid binder, \$7.50 f.o.b. shipping point.

### EXECUTIVES SHOULD DELEGATE

The executive who thinks that he has to do everything himself in order to have it done right should be reminded that the only way to transform ordinary subordinates into competent ones is to put responsibility on their shoulders. Not all can handle responsibility, of course, but plenty can if they have an opportunity. If they have no such opportunity, the good ones usually try their luck elsewhere.—Millers' National Federation.



# It's Your Business To Know

**E**XACTLY what do we mean by the term "business"? Try to explain fully and completely just what business is, and you will discover that you are explaining the outstanding facts of North American life. In explaining business, you go a long way toward explaining what made this continent the best place in the world to live in.

We are only 7% of the world's people. We own half of all the wealth in the world. We have 71% of the world's automobiles, 52% of its telephones and 40% of its radios. How did all this come about?

Why is the standard of living in North America higher than anywhere else? Why are we so well off that we consume one-fourth of all the sugar produced in the world, one-fourth of the coffee, and three-fourths of the silk? Why do we use one-half of the world's production of coal, and one-half of all the electric power? All for a mere 7% of the world's population?

If you provide a complete answer to all these questions, you will also have given a good answer to the question "what is business," for it is through the workings of business that North America has won economic leadership. Without our highly developed business mechanisms, 55,000,000 willing workers could never have produced our unparalleled standard of living, not even if all the earth's riches were beneath our soil and if all our farm land were the most fertile in the world.

Collectively, business is merely the production and exchange of commodities. Individually, businesses on this continent are a million separate enterprises, producing, selling, and transporting things, and financing the flow of trade. Business men are the people who make a living by conducting these million separate enterprises and who take the risks of owning them. From the corner grocery to the big steel company, each independent unit in our business system is working hard for that success which can be gained only by

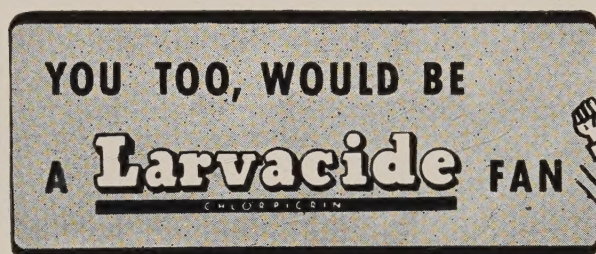
serving and satisfying its customers.

Business is good when these one million separate businesses are busily making and exchanging their products. They do this when costs and prices are in proper balance, and when the existing purchasing power is actively being used by consumers and by indus-

tries in buying from one another.

Businesses stimulate buying activity by offering better merchandise and more attractive values, and by advertising them widely. This is the way all new industries have been built. It is the way business operates normally in building prosperity.

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### USES ALUMINUM CLEAN-UP SHOVEL

We have been experimenting with an aluminum "clean-up" shovel, larger in size than the usual Clark shovel, and find that the work goes much faster and that fatigue is lessened considerably. When we have more data on this subject we will advise the readers of GRAIN.—Edward E. Frauenheim, Jr., G. J. Meyer Malt & Grain Corp., Buffalo.

### ALUMINUM SHOVEL SAVES TIME

We have been experimenting with an aluminum shovel on our automatic car unloading rig. It is of bigger size and results in greater unloading capacity. By using this lighter weight shovel (25 lbs.) we avoid the time loss in changing over from the shovel used when the automatic machinery is in operation to the regulation 30 lb. shovel attached to the rigging for cleaning up. We will release full details when the exact size and weight of aluminum shovel is determined through repeated try-outs. Our shovellers are very happy with the improvement to date.—Emil Buelens, The Glidden Co., Chicago.

### USES PLYWOOD SHOVEL

We have been experimenting with a half-inch thick plywood car shovel and find it gives us twice the length of service. We use hard wood for the bottom two boards, which get the hardest wear. For wheat we use a larger size shovel, and it works out very satisfactorily. The uprights run up two-thirds of the way; the same wooden handles are used.—Lloyd Forsell, Albert Schwill & Co., Chicago.

### Continue My Subscription

We do not appear to have received your publication for sometime. Should it be that our subscription has expired, we would appreciate your re-instating it with the current issue and billing us for the subscription fee.—J. C. Chamberlain, Maple Leaf Milling Co. Limited, Montreal.



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# Safety Study Course

By CLARENCE W. TURNING

*In a series of Chapters which will appear in successive issues of GRAIN, authority Clarence W. Turning, who is Safety Contest Director of the Society of Grain Elevator Superintendents, will outline the complete fundamentals for a successful safety program in your plant. Designed for use by Foremen, Plant Safety Committees, or other groups interested in the prevention of accidents in our industry, the material presented culminates several years' effort by this well known author, with the help of the Superintendents' Society's Safety Committee. If the demand warrants, meaning a thousand or more copies, we will reprint this series in booklet form for ready reference and guidance in the future. In the meantime may we suggest that these Chapters be kept intact together.*

The purpose of this study course is to furnish you with material suitable for the use of Foremen, Plant Safety Committees, or other groups interested in the prevention of injuries and accidents in our industry.

Accident statistics from reliable sources (National Safety Council, and our own Safety Contest figures) indicate that our industry has more accidents than other industries where similar or greater hazards prevail. Our own figures also show that our record has been deteriorating while some other industries have shown marked improvement in both accident frequency and severity rates during recent years. Therefore it is up to us to put in more time and effort to reduce the number of accidents. We believe you will find many ideas and suggestions in this study course which you can adapt or adopt in connection with your own plant accident prevention program.

The material selected has been gathered from numerous sources and carefully checked by our Safety Committee members; and we believe the use of this data will give your key-men a clearer insight into the hazards which they face from day to day as well as a better idea as to how these hazards can be eliminated or prevented.

In discussing this subject with your own groups, it may be advisable for you to review your own plant accident record for the past few years.

## Records and Reports:

Complicated records, as a rule, are not needed, but we do feel that certain necessary data should be available for the use of the Superintendent, such as the following:

1. Data on the cost of accidents.
2. Data as to the number and description of accidents. (See Industrial Safety Manual, National Safety Council, Page 30.)

Every Superintendent should know the current frequency and severity rates for his plant. The frequency rate is often considered the barometer or the gauge which determines the success of your safety efforts.

3. Data for Safety Committees: A list should be kept of recommendations and inspections, and no item should be crossed off the list until it has been disposed of by (a) remedial action on an inspection item and (b) committee action on a suggestion.

If you wish, you can also include on this list recommendations made by outside inspectors (insurance company or state inspectors).

4. Assemble data on accidents in similar plants and, where appropriate, discuss such accidents at committee meetings.

## Suggested Material for Distribution or Display to Supplement This Study Course:

1. SOGES Safety Manual; copies can be obtained from Dean M. Clark, Secretary, Society of Grain Elevator Superintendents, 2800 Board of Trade Building, Chicago 4.
2. Industrial Safety Manual issued by National Safety Council (of special interest to Managers and Superintendents of smaller plants).
3. Display posters dealing with the subjects to be discussed at the current meeting. Select these from current issues of the National Safety News or other sources of posters.
4. Safety Instruction Cards. These are supplied by the National Safety Council at small cost.

## Reference Material

You may desire some of the reference material referred to to cover subjects mentioned herein in a more detailed manner than set forth in our text:

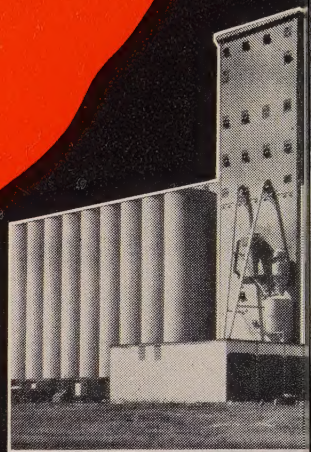
1. Society of Grain Elevator Superintendents, 2800 Board of Trade Building, Chicago 4, Dean M. Clark, Sec'y-Treas.

"GRAIN," monthly magazine, official paper of the Society.

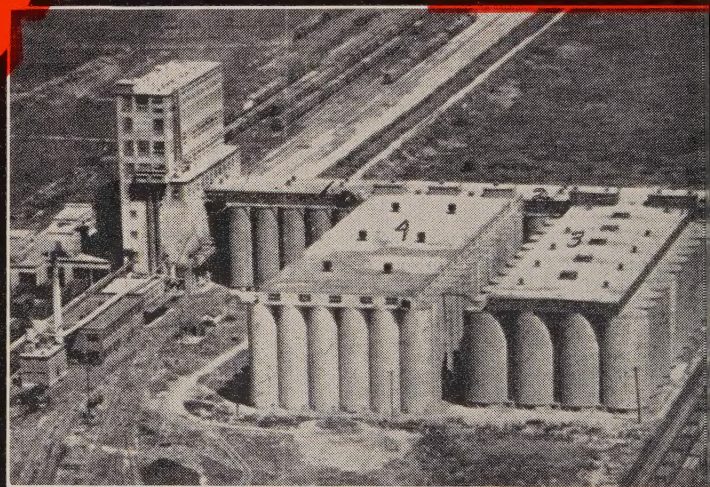
SOGES Safety Manual, "Safety Essentials for Grain and Processing Plants," 25c postpaid.



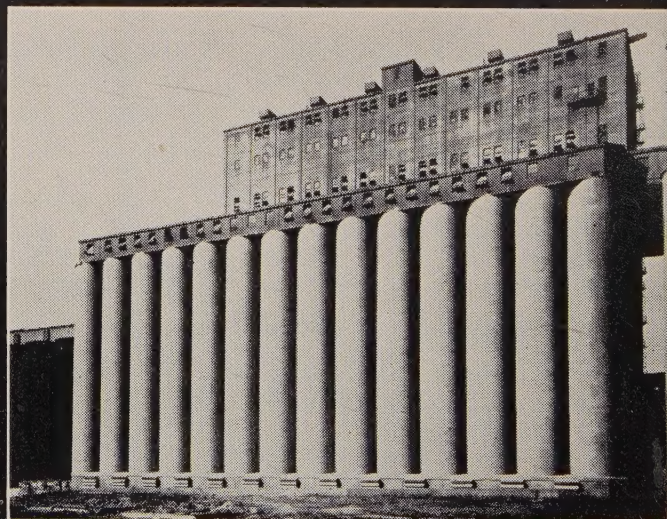
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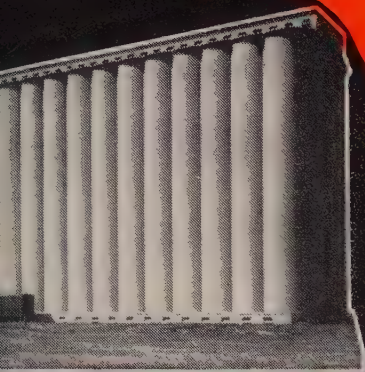


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"CONTEST NEWS," quarterly record of Safety Contests sponsored by the Society, with accident prevention data for Grain plants.

2. National Safety Council, 20 N. Wacker Drive, Chicago, publishes an extensive list of booklets and pamphlets, but the following are the ones which have a direct bearing on the subjects covered herein:

Industrial Safety Manual

"Accident Facts," an annual publication

Safe Practices Pamphlets, (covering special hazards)

Food Section reports and data (includes grain plants)

Proceedings of National Safety Congresses (none for 1945)

Safety Instruction Cards

Poster material

Service guide (showing services and materials available).

3. The National Board of Fire Underwriters, 222 W. Adams St., Chicago:

"Safeguarding Grain in Storage, against Fire and Explosion" booklet.

For a complete analysis of the current accident situation, see: "Accident Facts" published by the National Safety Council, 20 North Wacker Drive, Chicago 6, Ill.

#### Laws, Regulations and Code

The Superintendent and the Foremen should know the principal requirements of Federal, Dominion, State and Provincial laws, regulations and Safety Codes affecting their property and the operations of businesses. The following should be among the data on file in your "Safety Library":

Labor laws of your state or province, with special attention paid to rules covering guarding of machinery, so you won't be in conflict with the legal requirements. In some cases you may also need to know the Federal or Dominion rules (for instance, the "Longshoreman's Act of the U.S.," and the "Lake Carriers" safety rules).

You should also be well versed on the requirements of compensation laws covering your accidents—Federal and State, Dominion and Provincial. There may also be some laws or ordinances on health and sanitation with which you should be familiar.

In addition, your city may have a building code, which should be read.

The following data may be obtained from the American Standards Association, 29 W. 39th St., New York, N.Y., and should be available for reference:

#### Standard Safety Codes

Abrasive wheels, B7-1935.

Blower and exhaust systems, Z33-1935.

Building construction and materials, fire tests, A2-1934.

Building exits, A9-1935.

Construction safety code, A10-1934.

Dust explosion, prevention, Z12.

Electrical code, National (fire) C1-1935.

Electrical safety code, National C2-1937.

Floor and wall openings, A12-1932.

Heads and eyes, protection of, X2-1922.

Industrial sanitation, Z4-1-1935.

Lighting, factories, mills and other work places, A11-1930.

Power transmission, Mechanical, B15-1927.

Railings and toe-boards, A12-1932.

Many of the publications of the National Fire Protection Association and the Underwriter's Laboratories, will be of interest to you also. A complete list is available for the asking.

Special thanks are extended for assistance in selecting and preparing data suitable for this material to the following:

National Safety Council, Chicago.

The National Board of Fire Underwriters, Chicago.

Western Actuarial Bureau, Chicago.

Underwriters Grain Association, Chicago.

Arcady Farms Milling Company, Chicago.

Minnesota Power & Light Company, Duluth.

Duluth, Missabe & Iron Range Railway Company, Duluth, and,

Pillsbury Mills, Incorporated, Minneapolis.

Credit is herewith acknowledged to the Safety Committee of the Society of Grain Elevator Superintendents, to wit: —

Oscar W. Olsen, Chairman, F. H. Peavey & Company, Duluth.

Vincent Shea, Van Dusen-Harrington Company, Minneapolis.

Harley J. Hixon, Continental Grain Company, Kansas City.

John T. Goetzinger, Rosenbaum Brothers, Omaha.

Steve Halac, The Glidden Company, Chicago.

L. G. Irwin, Searle Terminal Limited, Fort William.

William R. Kamp, Ralston-Purina Company, Kansas City.

Charles F. Walker, Archer-Daniels-Midland Company, Council Bluffs.

Lawrence A. Meeker, Arcady Farms Milling Company, Chicago.

Frank McLean, Superior Elevator Company, Limited, Port Arthur.

Lewis Inks, The Quaker Oats Company, Akron.

L. R. Ginn, Kansas Milling Company, Wichita.

Herbert G. Brand, The Quaker Oats Company, Cedar Rapids.



Ray Finley, GLF Elevator, Buffalo.

Charles J. Winters, Public Grain Elevator, New Orleans.

Ralph E. Garber, Enid Elevator Corporation, Enid.

M. M. Darling, Acme-Evans Company, Indianapolis.

Norman Broadway, Collingwood Terminals Limited, Collingwood.

Tom Burris, Uhlmann Elevators Company of Texas, Fort Worth.

Edwin Josephson, Schreier Malting Company, Sheboygan and

O. B. Duncan, Salina Terminal Elevator Company, Kansas City.

### The Study Course

The following topics can be divided up into as many sessions as you desire. It will depend a lot on what time you have available and if there are other matters to discuss at the same meeting. By giving the necessary time to all of these subjects your men should have a clearer idea of accident prevention problems when the course is completed.

#### Lesson No. 1—"Safety Pays"

There is nothing more important to you, your family, and your Company, than your personal well being. An accident can cause you to lose your ability to work. It can cause those dependent upon you to lose their security, and it can cause a loss to the Company of its investment in you. Safety PAYS!

The Management of our Company has long been aware of the value of an energetic safety program. (Outline your safety efforts).—But they cannot draw a blue print of proper Safety Practices and install it in your mind. That is YOUR job!

Statistics show that 90% of all industrial accidents are CAUSED by unsafe practices on the part of injured persons; only ten per cent are caused by mechanical hazards. Therefore, nine-tenths of the effort to eliminate accidents lies in developing within our selves the habit of correct Safety Practices.

To help you in this endeavor a set of Safety Rules was compiled by the Society of Grain Elevator Superintendents and this series of meetings will explain these rules and the reasons for them. Every safety rule is written in blood. There have been fatalities or serious injuries reported for each unsafe practice or careless act which is mentioned in the sets of safety rules.

No one knows all there is to know about safety. Therefore we welcome your suggestions and questions at any time during these discussions. Your ideas on any subject may be better than those written in our text.

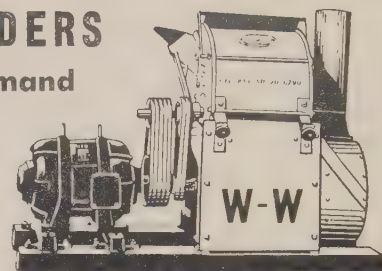
Our aim is to eliminate all preventable accidents in our plant and we do need your help to attain this goal. Accident prevention is part of your job—do something to promote safety each and every day.

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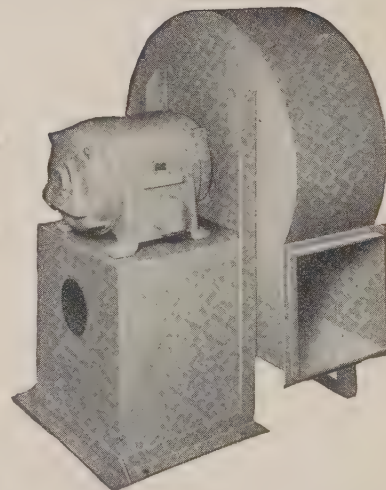
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*"Safety is a prayer for protection from folly and carelessness. It is a plea for every person to preserve what they possess and never can regain if lost."*

#### Lesson No. 2—"Preventing Accidents"

"No magic formula has ever been found which will take the place of carefulness and thoughtfulness in preventing accidents."

An accident prevention program is based on several fundamental points. One of these is: (a) *Accidents can be prevented*. A full proof of this is given in Mr. Sidney J. Williams' book: "The Manual of Industrial Safety." This book gives us some illuminating facts on the progress made from the early days of industrial safety efforts (30 years ago or more). If time permitted we could quote you at length on the wonderful progress that was made by certain companies and certain industries who at that time suffered from a plague of industrial accidents.

To give you more detail as to the current accident picture we could also give you full detail from an annual booklet published by the National Safety Council entitled: "Accident Facts"—the current edition (at this writing) being for 1945. In their 1943 edition they mention that the average frequency rate (in plants reporting to them) declined 67 per cent from 1926, and that the severity rate declined 51 per cent. These reductions are in addition to the tremendous reductions mentioned by Mr. Williams in his book; for instance, the United States Steel Corporation had already reduced their accidents 60% in 1925 as compared with 1906.

However in the average grain handling plant the record has never been as good as in the average industry reporting to the National Safety Council, nor has there been a gradually declining accident rate as reported for many other industries. Therefore it is more necessary for us, than for other industries, to put forth added efforts to eliminate preventable accidents.

(A) An accident is an error or mistake on some individual's part.

(B) Errors or mistakes are controllable through supervision.

(C) If the error is tolerated the accident will recur as soon as the law of averages catches up. Therefore it is important that the careless act or unsafe practice be corrected the first time it is noticed.

(D) Accidents will be prevented only if responsibility for non-prevention is assigned.

*"Even if it is in the rule book, it may not be the best way. If you know a safer or better way to do any job, tell us about it."*

I will study and prepare myself, and some day my chance will come.—A. Lincoln.

We are either progressing or retrograding all the while. There is no such thing as remaining stationary in this life.—James Freeman Clark.

What is talent but reason expressed with brilliance.—Saint-Beuve.

The less people speak of their greatness, the more we think of it.—Bacon.

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# MITES

## In Stored Grain and Their Control

Prepared by DR. B. N. SMALLMAN, Division of Entomology, Science Service, Dominion Department of Agriculture—In Co-operation With The Board of Grain Commissioners, Department of Trade and Commerce

Mites damage stored grain by raising its moisture content. Increased moisture in stored grain promotes the growth of moulds and leads to "heating." Mites raise the moisture content of stored grain, however, only when they are present in large numbers. They have been reported as far south as Tennessee.

Of the six species of mite found in stored grain, only two appear to be capable of increasing their numbers with sufficient rapidity to threaten the condition of stored grain.

The "common" grain mite, found more frequently and in larger numbers than any other mite, has a pearly-white body, smooth, shiny, waxy-looking. The snout and legs are tinged with brown, and it moves very sluggishly. The worst infestations are always caused by the "common" grain mite and grain heavily infested therewith usually has the characteristic, sweetish, "mitey" odour.

The "hairy" mite, which moves rapidly, is whitish and the body is covered with long hairs which stick out at sharp angles. The "hairy" mite does not appear to be capable of increasing its numbers as rapidly as the "common" mite, however it is occasionally found in very large numbers in stored grain—and frequently found associated with the "common" mite.

A third type of mite is the "cannibal" mite. This breed is larger than any other mite found in stored grain, is usually brownish in colour and moves quickly. The "cannibal" mite feeds on other mites. It is never found in large numbers and for this reason is not to be regarded as a threat to stored grain.

### Where Mites Are Found

Moisture is of primary importance to mites. For this reason any part of the grain suspected or known to have

a higher moisture content than the bulk of the grain should be probed for mites.

In grain stored for some time without disturbance there is a process at work that leads to the accumulation of more moisture in the surface layers of the grain than anywhere else. This condition was particularly evident in the temporary annexes with poor ventilation. For instance, in grain binned with an average moisture content of 12.2%, the grain 12 feet down in the bin might still show a moisture content of 12.2% while the surface grain might be actually "tough," and moisture contents higher than 12.2% might extend to a depth of 4 feet or more. This "crusted" condition sometimes exists where no mites can be found.

Usually, however, mites will be found in the surface layers of stored grain because of the favourable moisture conditions. For this reason, the surface layers of the grain should always be probed to a depth of 4 or 6 feet when examining a bin for mites.

Unfortunately this is not the whole story. The presence of mites should

be suspected at points other than the surface layers of the grain under the following conditions:

1) Wherever a bin was partially filled and then allowed to stand for some time before it was completely filled. . . . In such a case the surface of the grain, when the bin is partly filled, will tend to accumulate moisture to produce a layer of high moisture grain at that depth when the bin is completely filled. Mites have been found in such a layer deep in the grain.

2) Wherever the flooring of a bin is flat on the ground, such as in some recent construction. . . . Under these conditions moisture from the soil produces a layer of moist grain in the bottom of the bin and mites in large numbers have been found in the bottom of such bins. It is recommended that bins raised above the ground, but banked with earth, should have the earth cleared away now to permit free circulation of air under the flooring.

3) Wherever a load of "tough" grain has been introduced into a bin.

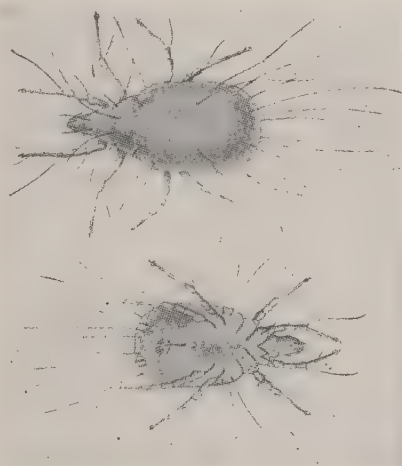
4) Wherever there is suspicion that water has leaked in and run down walls or props to some depth in the grain.

5) Wherever old grain has been mixed with new grain.

### The Importance of Moisture and Temperature

The moisture content of the grain is of primary importance to mites.

The "hairy" mite can live and apparently reproduce itself in grain with a moisture content as low as 12%, however the "common" mite seems unable to increase its numbers in grain with a moisture content below 13%, and then only slowly. With moisture contents of 14% to 15%, however, propagation increases very rapidly.

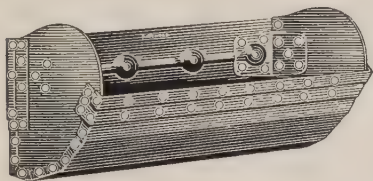


Grain Mites [*Tyroglyphus*] enlarged 100 times.



At moisture contents of 15% to 17% really huge numbers of eggs are found, indicating a very rapid rate of reproduction. When the moisture content of the grain exceeds 18%, on the other hand, there is a decrease in the numbers of the mite until at 20% to 22% moisture content very few are found.

Temperatures, within the limits found in stored grain, seem to be of secondary importance. Stored grain never reaches a temperature low enough to kill mites, and it seems unlikely that normal stored grain ever reaches temperatures high enough to kill mites. Low grain temperatures will operate to slow down the rate of increase of mites, although mites are apparently able to increase their numbers at temperatures of 36° F. The most favorable temperature seems to be between 60° F. and 65° F.



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## Ventilation

Ventilation cannot be regarded as a cure for mite-infested grain. Mites already working in an annex have continued to go ahead after the bin has been provided with ventilation. Adequate ventilation, however, is probably the best PREVENTIVE.

A current of air over the top of the grain from the time it is binned will certainly operate against the accumulation of moisture in its surface layers. Good ventilation, supplemented by raking or shovelling over the top of the bin on warm, dry days will tend to reduce the moisture content of the surface layers of grain and thus provide a dry condition unfavorable to mites.

Excellent ventilation is achieved by "box-ventilators" placed just under the eaves and roof ventilators. Windows should also be left open whenever possible.

## Mechanical Methods of Controlling Mites

"Scalping" the infested top layers of a bin, turning the grain in the elevator, cleaning the grain and shovelling over the tops, are all methods that have been in general use for the control of mites. How effective are these methods?

The following are a few examples of what has been found quite generally:

1) In an annex known to be infested to a depth of 3 to 4 feet from

the surface, the top 5 feet of grain was removed. No mites were found at the new surface, but three weeks later mites broke out again at the new surface.

2) The top 4 feet of mite-infested grain was removed from an annex, "turned" in the work-house, and returned to the annex. Samples showed no living mites. Subsequently mites reappeared in numbers in this grain.

3) All the grain in an annex was thoroughly cleaned before binning so that it was practically free of dockage. A very heavy infestation of the "common" mite was found in this grain.

The "common" mite is capable of entering the germ end of the wheat berry and feeding on the germ. As many as 25 mites have been found inside the germ end of a kernel. Insofar as mites are actually inside the wheat kernels, turning and cleaning will not eliminate them and sufficient mites may be present to start an infestation.

From these examples it is clear that only temporary control of mites can be expected from mechanical handling of the grain. Moreover, in the event of grain being stored for 2 years or even longer (as it has been before and will be again) and turned every few months in order to control mites, the cost would be tremendous. It seems imperative, therefore, to find a method of control that is more economical and more lasting than that obtained by mechanical handling of the grain.

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## Fumigation—Experimental

A fumigant is a liquid that evaporates to form a gas capable of spreading through the air-spaces in grain or other commodities to kill insect pests or mites. Our first problem then was to find a fumigant that would evaporate to form a gas during cold weather, since the temperature of our stored grain is often at 32° F. or even lower.

The fumigants "Weevil-Cide" and "Larvacide" were found to be capable of killing mites at 32° F. Both kill mites at lower dosages than those required against insects (beetles). One-half the quantity of "Weevil-Cide" usually recommended for insects will kill grain mites. At 32° F. complete kills were secured with "Larvacide" where one-quarter the amount usually used against insects was employed. Both of these materials were very efficient fumigants against mites.

## Application of Fumigant—Experimental

The manufacturers of "Weevil-Cide" claimed that the fumigant, when merely poured on the surface of the grain under favorable temperature conditions, forms a gas heavier than air which is capable of sinking through 100 feet of grain to kill insects at the bottom. In our experimental work "Weevil-Cide," which was sprayed on the grain surface of a mite-infested annex, failed to kill the mites below the surface, but this was undoubtedly due to the temperature of the surface grain, which was approximately 24° F., a temperature which probably was too low to vaporize the fumigant.

However, by using a short probe "Weevil-Cide" was applied about a foot below the grain surface, and it was thus possible to take advantage of the higher temperature at that level to evaporate the liquid fumigant. The gas then sank down to kill mites at 8 feet below the surface. There were no mites below this to serve as an indication of how much deeper the fumigant penetrated.

It was originally thought that "Larvacide" would have to be applied at various depths throughout the body of infested grain. The labor and time involved in putting down probes to four or five levels at 6 foot intervals

was considerable, and marked a serious disadvantage; a more efficient method of application was therefore sought. The gas formed from the vaporization of "Larvacide" is actually heavier than that formed from the vaporization of "Weevil-Cide." It was reasonable to expect, therefore, that the ability of "Larvacide" to sink down through a body of grain should equal or surpass that of "Weevil-Cide" which had been shown to sink, from a surface application, to a depth of 100 feet in grain.

In an annex infested with mites to a depth of 8 feet "Larvacide" was applied with short probes to a depth of

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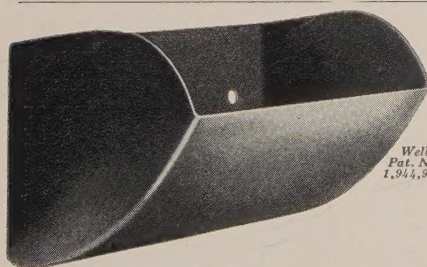
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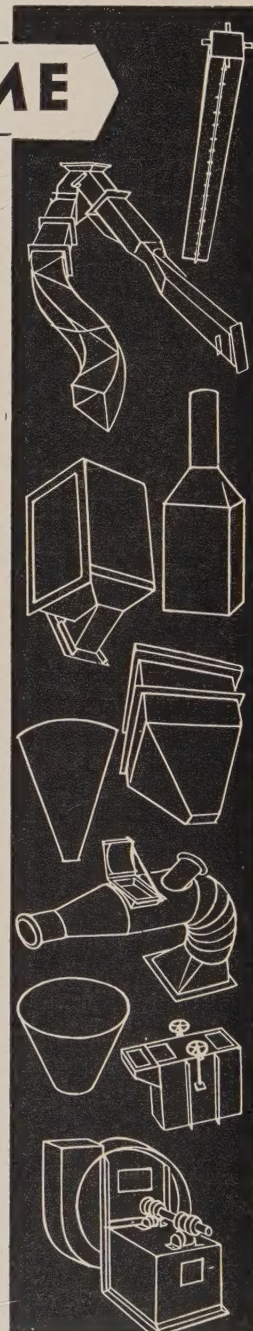
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Chicago 4, Ill.





about 1 foot below the surface and a small amount was also sprinkled on the surface. The gas penetrated down into the grain to kill all mites to a depth of 8 feet. This method of application of "Larvacide" with short probes was tried extensively and with consistent success also. It was never tried against an infestation in the bottom of a bin, but in one case at least the gas penetrated 10 feet beneath the point of application to kill the mites. It seems likely that "Larvacide" introduced into the grain with short probes will penetrate downwards to kill mites even in the bottom of a bin.

An annex, heavily infested with mites and with some eggs, and large numbers of the "resistant stage" was fumigated with "Larvacide." Samples taken from this grain two months later never showed the reappearance of living mites. Two cars of grain from an annex treated with twice the normal dosage of "Larvacide" were loaded and shipped in the normal manner. Both cars passed inspection with "no taint."

#### Practical Fumigation

"Weevil-Cide" may be applied without a gas mask. In this it has an advantage over "Larvacide" which can be applied only with the protection of a full-face mask.

It is important to apply either fumigant at as many points as possible and in small quantities so that it will quickly evaporate and produce a maximum concentration of the gas. It should also be borne in mind that the gas is heavier than air and should be applied at a point above the lower limit of the infestation.

To obtain these results the fumigant is put in with probes at two levels. For instance, in an infestation extending to a depth of 8 feet from the surface, the fumigant should be introduced with 2-foot probes and 4-foot probes. In an infestation extending only 4 feet below the surface, 3-foot probes and 1-foot probes should be used.

To ensure a kill of mites in the surface grain a top-dressing was used. This top-dressing may be put on with a sprinkling can or by means of sprinkler-tops corked into the 16-ounce bottles. After the top-dressing has been applied, all ventilators should be plugged with sacking. The annex should be kept closed for about a week before opening it to clear out the gas.

#### Mite Rash

Those working in mite-infested grain are sometimes troubled with in-

flammation and a burning sensation on the arms and legs and at points where the skin surfaces are moist. The cure is to use liquid green soap for washing and to apply sulphur ointment on skin showing a rash. The burning sensation will be relieved by the application of a 5% alcoholic solution of salicylic acid. Any druggist will make this up. Allow to dry and repeat application.

#### ARTHUR JOHNSON DIES

Arthur C. Johnson, 49, died on Feb. 1 in Kansas City. He had been Superintendent for about a year of Moore-Seaver Grain Co.'s K. C. S. terminal before retiring last October due to ill health. He was previously located in Topeka, Kan., where he had been Superintendent for over a decade for the Kansas Elevator Company.

#### FRIEL SUCCEEDS McDERMOTT

Bernard E. Friel, formerly of Minneapolis, has succeeded Frank J. McDermott as General Superintendent of the Rodney Milling Company's elevators in Kansas City. Mr. McDermott is retiring after many years of association in the terminal elevator field both in Kansas City and Chicago. Mr. Friel is Secretary of the Kansas City SOGES Chapter.

#### VIC REID TO WEST COAST

Hart-Carter Names Sales Manager as Pacific Northwest Representative

Effective immediately, Victor H. Reid will serve the Hart-Carter Co. in the new capacity of representing the company's line in the Pacific Northwest.

Resigning as Hart-Carter sales manager, Mr. Reid takes over the operation of the W. G. Strutt & Co. in Portland, Ore. [It will be remembered that Wesley G. Strutt, a former Hart-Carter executive and their Pacific Coast representative for 8 years, was killed last Oct. 16 in an automobile accident.]



Mr. Reid will direct the business of the Strutt Company, hereafter to be known as Reid-Strutt & Co., at the same time continuing his close association with Hart-Carter by providing representation for their Carter Disc

and Hart Uniflow grain separators, Scalperators, Millerators, Duo-Aspirators, and Puro-Graders. In addition he will also represent the Strong-

#### MATSON AND COTE RETIRE

Eric Matson, Superintendent of Cargill's Kansas City house for the past eight years, retired recently. O. E. Kinman and Andy Olson of St. Louis take over.

Eric, a past officer and director of the SOGES Kansas City Chapter, went to work for Cargill at Elevator T in Minneapolis in 1926. In 1932 he became the Super, moving to Omaha to take over upon completion of that new house. He stayed in the Nebraska terminal until 1938.

Another Cargill "old timer" who retires is Lou Cote of Milwaukee, who steps down after 45 years of service. Lou started out as station agent in the Manawa (Wis.) elevator, moved to Green Bay and Elevator A until 1917 when, like Eric Matson, he went to Elevator T in Minneapolis. He remained there as Super until April of 1927, moving to Milwaukee to take over Elevator E, which he now relinquishes to John Wintheiser.

#### GOETZINGER'S MOTHER DIES

John Goetzinger's mother passed away on Jan. 5.

John is Superintendent of Rosenbaum Brothers' Illinois Central Elevator in Omaha, and is Secretary of that SOGES Chapter.

Scott Mfg. Co., The Day Co., the A. T. Farrell Co., and the manufacturers of the Entoleter.

"Vic," as he is widely known and universally called by his host of friends, completed 25 years with the Hart-Carter Company. Starting as a youthful hand in the factory, he served in many different capacities in the plant, shipping room, testing and research laboratory, office, and out in the field. In his job as salesmanager for the past 9 years, he traveled and studied grain cleaning problems in all parts of North and Central America.

He has shown not only outstanding ability as a sales executive, but a broad, practical and thorough understanding of the technical side of milling, grain processing, and seed cleaning. His personal contacts and freely-given engineering counsel have won him admirers among grainmen, millers, and seedsmen. Even under the new arrangement, Hart-Carter and its customers will continue to have the benefit of Mr. Reid's experience and advice. His office is located at 414 Lewis Building, Portland, Ore.

Good luck, Vic!



# Weevil-Cide SPLITTERS

## BUST IN THE EYE

A prominent bishop sat in a box in the opera house awaiting the curtain and watching the fair ladies in low cut evening gowns being ushered to their seats.

After looking around the house with opera glasses, one of the ladies in the party said:

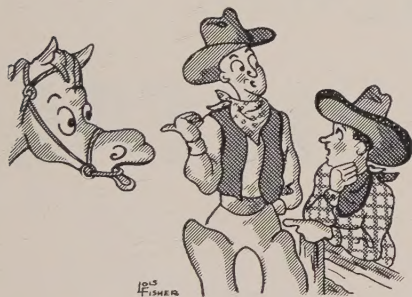
"Honestly, Bishop, did you ever see anything like it in your life?"

"Never," gravely replied the bishop, "never, since I was weaned."

\* \* \*

## GRACIOUS COMPROMISE

One drunk (to another on the sidewalk): I can't help ya up, but I'll lie down with ya.



## DRUG STORE COWBOY?

Cowboy: "What kind of a saddle do you want—one with a horn or without?"

Dude: "Without, I guess. There doesn't seem to be much traffic on these prairies."



## COLD MODESTY

Have you heard what the mayonnaise said to the refrigerator?

"Close the door, I'm dressing."

\* \* \*

## BEING DISCREET!

"It's a bottle of hair tonic, dear."

"Oh, that's very nice of you, darling."

"Yes, I want you to give it to your secretary at the office. Her hair is coming out rather badly on your coat."

\* \* \*

## GASSY, EH?

Some tires are getting so thin these days the air is beginning to show through.

\* \* \*

## HOLED OUT

A Scotch baker tried to save money on doughnuts by trying every day to make the holes larger. But he finally had to give it up because the larger he made the holes, the more dough it took to go around them.

\* \* \*

## GOOD POINT

A good letter, like a woman's skirt, should be long enough to cover the subject and short enough to create interest.

\* \* \*

## TRIED HARD, ANYHOW

"Rastus, doesn't that mule ever kick you?"

"No suh, he ain't yet, but he frequently kicks de place where Ah recently was."

\* \* \*

## TO COVER HER REPERTOIRE?

Sweet young thing to new store clerk: "Where can I get some covering for my settee?"

N.S.C. to S.Y.T.: "Two aisles down in the lingerie department."



## ABOUT THE LIQUOR SHORTAGE

I had twelve bottles of whiskey in my cellar, and my wife told me to empty the contents of each and every bottle down the sink. I said I would, and proceeded with the unpleasant task.

I withdrew the cork from the first bottle, and poured the contents down the sink, with the exception of one glass, which I drank.

I extracted the cork from the second bottle, did likewise, with the exception of one glass which I drank!

I withdrew the cork from the third bottle, poured the whiskey down the sink, with the exception of one glass, which I drank.

I pulled the bottle from the cork of the next and drank one sink of it and threw the rest down the glass.

I pulled the sink of the next glass, and poured the cork from the bottle, then I corked the sink into the glass, bottled the drink, and then drank the pour.

I'm not as much under the influence of incohol as some thinkle peep I am!

\* \* \*

## HADN'T ASKED

Boss: "No, I'm afraid you wont do."

Stenographer: "Did I say I wouldn't?"

Compliments of  
**THE Weevil-Cide**  
**THE DEPENDABLE GRAIN FUMIGANT COMPANY**  
1110 HICKORY STREET  
KANSAS CITY, MO.





... the "Seventh Son of a Seventh Son" who attempted to predict when and where a Dust Explosion would strike

*and*  
**WAS HIS FACE**  
**RED!**

Dust Explosions are absolutely *unpredictable*. But, they are not *unpreventable*! And in prevention there lies *safety*.

Robertson Safety Ventilators provide a preventive measure, because, mounted on your elevator legs, they continually vent fine dust through gravity action . . . thus eliminating the risk of primary explosions.

As a *final* safeguard . . . Robertson Safety Ventilators establish an "exit" through which a Dust Explosion is ushered *outside* . . . and through this release of pressure there is protection against the destructive e-x-p-a-n-s-i-o-n of secondary explosions.

Play safe with Robertson Safety Ventilators. Complete descriptive literature upon request.

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